IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants	:	Bruce H. HANSON et al.	Group Art Unit: 3651
Appln. No.	:	10/715,516	Examiner: Khoi H. TRAN
Filed	:	November 19, 2003	
For	:	**SYSTEM AND METHOD OF FILLING CONTAINERS**	

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37(a)

Sir:

This appeal is from the Examiner's final rejection of claims 6, 13 and 19 as set forth in the Final Office Action of March 15, 2007. A Notice of Appeal and a Request for Pre-Appeal Brief Review, in response to the March 15, 2007 Final Office Action, were filed on April 26, 2007. Appellants are timely filing this Appeal Brief, e.g., by two months of the mailing of the Notice of Appeal.

Attached hereto is the fee in the amount of $ 500.00 as payment of the requisite fee under 37 C.F.R. 41.20(b)(2). No additional fee is believed to be required for filing the instant Appeal Brief. However, if for any reason a necessary fee is required for consideration of the instant paper, authorization is hereby given to charge the fee for the Appeal Brief and any necessary extension of time fees to Deposit Account No. 19-0089.

REAL PARTY IN INTEREST

The real party in interest in this appeal is Lockheed Martin Corporation, assignee of the entire interest in the above-identified application, as established by an assignment recorded in the U.S. Patent and Trademark Office on November 19, 2003, at Reel 014716 and Frame 0503.

RELATED APPEALS AND INTERFERENCES

The Appellants, their legal representatives and the Assignee are not currently aware of any appeal that may directly affect or be indirectly affected by or have some bearing on the Board's decision in this appeal. Attached hereto is a Related Proceedings Appendix showing no related appeals or interferences.

STATUS OF THE CLAIMS

Claims 1-24 are pending in the above-identified application. Claims 6, 13 and 19 stand finally rejected and are the subject of this appeal. Claims 1-5, 9, 10, 14, 23 and 24 are withdrawn as being directed to distinct inventions[1]. Claims 15-18 and 20-22 are allowed. Claims 7, 8, 11 and 12 are objected to. Claims 1-24 and their respective identifiers are attached in the "Claims Appendix".

STATUS OF AMENDMENTS

All prior amendments to the claims have been entered. No amendments to the claims were filed under 37 C.F.R. § 1.116. Claims 1-24 are pending and are attached in the "Claims Appendix".

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[1] As previously discussed with the Examiner, it appears that the Restriction Requirement of September 27, 2006 is improper. Basically, claims 6 and 13 are dependent on independent claim 1 and, as such, claims 6 and 13 must include the subject matter of claim 1. Likewise, claim 19 is a dependent claim, depending from independent claim 14. As such, claim 19 must include the subject matter of claim 14.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 1[2]

Claim 1 is directed to a method of filling containers 116 with product (FIG. 1). The method comprises assigning variables associated with at least one container 116 and a number of drop points 114 (FIG. 1) and determining at least one threshold value based on the variables (pages 15 and 18-21 and FIGS. 4a-4b, steps 104-113). The method further includes distributing the product to the at least one container 116 for each drop point 114 based on the determined at least one threshold value (pages 21-23 and FIGS. 4a-4b).

Independent Claim 14[3]

Claim 14 is directed to a method for distributing product at a drop point. The method comprises calculating a best estimate of containers needed if a level of fill varies between a maximum fill value and a minimum fill value and a number of product varies. (See, FIG. 4a, steps 106 and 109, and pages 19-20 of the specification.) The method further comprises calculating an expected number of the containers needed for a drop point based on the calculated best estimate. (See, FIG. 4a, step 109 and page 20 of the specification.) The method further comprises determining a number of product required per container for the drop point based on the number of product and the expected number of containers for the drop point (FIG. 4b and at least step 114) and determining whether a fill depth of the containers is less than or equal to the maximum fill value of the containers (FIG. 4b, step 115). If the determining step of fill depth is less than or equal to the maximum fill value, the method includes creating a container fill table having a drop point designation, and an associated number of containers and

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[2] Claims 6 and 13 are dependent claims, depending from base claim 1. Accordingly, claims 6 and 13 include the subject matter of claim 1.

[3] Claim 19 is a dependent claim, depending from base claim 14. Accordingly, claim 19 includes the elements of both claim 14 and claim 19.

product to fill the containers (FIG. 4b, step 117 and page 22). (See, also remaining steps of FIG. 4b and pages 7 and 22-30.)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 6, 13 and 19 were rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 6,283,304 issued to Gottlieb.

ARGUMENTS

REJECTION UNDER 35 U.S.C. §102(b)

Claims 6, 13 and 19 were rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 6,283,304 issued to Gottlieb.

In order to reject a claim under 35 U.S.C. §102(b), a single reference must show each and every feature of the claimed invention, either explicitly or inherently. See, MPEP 2131.01 and *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Appellants submit that Gottlieb does not show all of the features of the rejected claims, as discussed in further detail below. Accordingly, Appellants request withdrawal of the rejection and an indication of allowance of the claimed invention.

Independent Claim 1
Dependent Claims 6 and 13

Independent Claim 1

Claim 1 recites many feature that are not shown or disclosed in Gottlieb. The present invention is directed to a system and method of filling a plurality of containers for reducing a required amount of such containers in a system. In a

non-limiting exemplary illustration, the method ensures that the containers are uniformly filled and that all containers used in the system are utilized to their maximum capacity. Placement of product within containers may be accomplished by assigning variables associated with at least one container and a number of drop points and determining at least one threshold value based on the variables. The method further includes distributing the product to the at least one container for each drop point based on the determined at least one threshold value. (The variables used may include, for example, the maximum and minimum number of pieces and fill load of the containers.)

Gottlieb does not show the features of the claimed invention. For example, Gottlieb does not show assigning variables associated with at least one container and a number of drop points. If there is to be any interpretation, Gottlieb shows variables associated with the mail pieces, itself, i.e., thickness measurements of the mail pieces. But, these thickness measurements are used to determine the fill capacity of the bins. These thickness measurements are not assigned to the drop point. Also, Appellants admit that Gottlieb assigns the mail pieces to a drop point such that they can be diverted to such drop point; however, this is not suggestive of assigning a variable to the drop point. Instead, in Gottlieb, the fill amount of the containers is determined solely for the purpose of providing an indication to empty the bin (when it is deemed full), or to divert the product to another bin. In fact, Gottlieb appears to only be concerned with determining a maximum fill value.

More specifically, in Gottlieb, a mailpiece is fed into the sorting apparatus and measured by thickness sensors and fed to a particular bin. The measurement is saved in a queue or stack memory device which stores measurements of mailpieces for the particular bin in which the mailpiece was delivered. A query is made as to whether the bin in which the mailpiece was delivered is almost full. If the bin is almost full, a sensor indicates to the operator that the bin should be emptied. If the bin is not emptied, the thicknesses of all of the mailpieces which are to be delivered to a particular bin, but not delivered, are added to the bin almost full value to obtain a calculated thickness. Next, a query

is made as to whether the calculated thickness equals a bin-full thickness to determine if the bin is full. If the bin is not full, then feeding and measuring, storing thickness and calculating bin-full thicknesses continue. If the bin is full, a query is made as to whether alternate bins are available for use in conjunction with the mail delivery designation of the full bin. If alternate bins are available, the mailpiece(s) for the full bin is routed and delivered to the alternate bin.

However, it is clear that Gottlieb does not show assigning variables associated with at least one container and a number of drop points. Instead, the variables are assigned to the mail pieces, itself, i.e., thickness measurements of the mail pieces. Also, Gottlieb assigns the mail pieces to a drop point, but does not even remotely discuss the possibility of assigning a variable to the drop point. Instead, Gottlieb only determines the fill amount of the bins by measuring the mailpieces already in the bin (via a sensor) or calculating the total thickness of the mailpieces which are to be placed in the bin. It is this information which is used to determine a maximum fill value so that mail pieces can be diverted to another bin.

Dependent Claim 6

The rejection of claim 6 under 35 U.S.C. §102(b) as being anticipated by US Patent No. 6,283,304 issued to Gottlieb is in error, the decision of the Examiner to reject this claim should be reversed, and the application should be remanded to the Examiner.

Claim 6 recites, in pertinent part,

> ....
> determining a best estimate of a number of containers needed if a level of fill varies between a maximum and minimum fill value of the at least one container; and
> determining a best estimate of a number of containers needed if the number of product varies for the drop point.

These features are not taught by Gottlieb.

Referring to FIG. 2, in Gottlieb, the fill amount of the containers is determined solely for the purpose of providing an indication to empty the bin (when it is deemed full), or to divert the product to another bin. There is no disclosure, whatsoever, that the Gottlieb method determines any estimate of the number of bins needed if a fill level varies (i) between a maximum and minimum fill value of the bin or (ii) for a particular drop point. In fact, it would appear that Gottlieb does not even contemplate whether a fill of product will vary between a maximum and minimum fill value for a particular bin. Gottlieb also makes no mention of making estimates if the product varies for a drop point. Instead, Gottlieb appears to only be concerned with determining a maximum fill value.

More specifically, in Gottlieb, a mailpiece is fed into the sorting apparatus and measured by thickness sensors and fed to a particular bin. The measurement is saved in a queue or stack memory device which stores measurements of mailpieces for the particular bin in which the mailpiece was delivered. A query is made as to whether the bin in which the mailpiece was delivered is almost full. If the bin is almost full, a sensor indicates to the operator that the bin should be emptied. If the bin is not emptied, the thicknesses of all of the mailpieces which are to be delivered to a particular bin, but not delivered, are added to the bin almost full value to obtain a calculated thickness. Next, a query is made as to whether the calculated thickness equals a bin-full thickness to determine if the bin is full. If the bin is not full, then feeding and measuring, storing thickness and calculating bin-full thicknesses continue. If the bin is full, a query is made as to whether alternate bins are available for use in conjunction with the mail delivery designation of the full bin. If alternate bins are available, the mailpiece(s) for the full bin is routed and delivered to the alternate bin.

As thus should be understood, though, there simply is no disclosure, whatsoever, that the Gottlieb method determines a best estimate of number of bins needed, much less, based on if a level of fill varies between a maximum and minimum value. Instead, Gottlieb only determines when a bin is or may become full in order to place mailpieces in another empty bin. This is not the same, even remotely, as estimating the number of bins needed.

Additionally, Gottlieb does not teach determining a best estimate of a number of bins needed if the number of product varies for the drop point. In fact, there is absolutely no disclosure in Gottlieb of making any estimate of the number of bins needed during a particular sorting run. Instead, Gottlieb is concerned with a fill level of a particular bin, and if the bin is full, emptying the bin or directing the mail to an alternate bin. This certainly is not the same as making estimates, based on some variables, as to how many bins may be needed.

Accordingly, Appellants respectfully request that the rejection over claim 6 be withdrawn.

Dependent claim 13

The rejection of claim 13 under 35 U.S.C. §102(b) as being anticipated by US Patent No. 6,283,304 issued to Gottlieb is in error, the decision of the Examiner to reject this claim should be reversed, and the application should be remanded to the Examiner. Claim 13 depends from claim 6. For the reasons addressed above, Appellants submit that claim 13 is a distinguishable claim and should thus be passed to issuance. Accordingly, Appellants respectfully request that the rejection over claim 13 be withdrawn.

Independent Claim 14
Dependent Claims 19

Independent Claim 14

As with claim 6, claim 14 recites many features that are not shown or disclosed in Gottlieb By way of example, Gottlieb does not show the combination of features of claim 14, including:

> ... calculating a best estimate of containers needed if a level of fill varies between a maximum fill value and a minimum fill value and a number of product varies;
>
> calculating an expected number of the containers needed for a drop point based on the calculated best estimate;

> determining a number of product required per container for the drop point based on the number of product and the expected number of containers for the drop point ...

As discussed above, Gottlieb does not disclose calculating a best estimate of bins needed if the level of fill varies between a maximum and minimum fill value and the number of product varies. Instead, in Gottlieb, the fill amount of the bins is determined solely for the purpose of providing an indication to empty a bin, or to divert the product to another bin if the bin is full or is about to be full. The fill amount is determined by either the actual mailpieces in the bin or in combination with the thickness of the mailpieces to be placed in the bin. Nowhere does Gottlieb disclose calculating a best estimate of containers needed if a level of fill varies between a maximum fill value and a minimum fill value and a number of product varies. In fact, it is not even contemplated by Gottlieb to have a minimum and maximum value of product for estimating the usage of a bin. Gottlieb only uses a maximum fill level to determine if another bin is required; not to calculate an estimate of bins needed.

Nor does Gottlieb contemplate or even remote teach calculating an expected number of the containers needed for a drop point based on the calculated best estimate. Again, Gottlieb does not make any calculations for estimating a number of bins, much less for a particular drop point based on maximum and minimum fill values. Instead, Gottlieb uses the actual data (mailpieces in the bin and the total thickness of mailpieces to be placed in the bin) to determine whether the mailpieces should be diverted to another bin. The diversion of mailpieces to another bin, though, is not even remotely the same as calculating an estimate of bins need for a drop point based on maximum and minimum fill values.

Also, Gottlieb does not determine a number of product required per container for the drop point based on the number of product and the expected number of containers for the drop point. In Gottlieb, the total amount of mailpieces or thickness thereof is determined in order to divert the mailpieces to

other bins, when a bin is already filled. Thus, in Gottlieb, the number of mailpieces are calculated for a single bin in order to reassign mailpieces to another bin. But, Gottlieb does not determine a number of product required per container for the drop point based on an expected number of containers for the drop point. Simply, Gottlieb does not know the expected number of containers. This would not be known until after all of the mailpieces are sorted.

Thus, in conclusion, there is no disclosure, whatsoever, that the Gottlieb method determines any estimate of the number of bins needed, for whatever purpose. Also, as discussed above, Gottlieb does not even contemplate whether product will vary between a maximum and minimum fill value for a particular bin. Nor does Gottlieb teach that a number of mailpieces required per container for the drop point is based on an expected number of containers for the drop point. Instead, Gottlieb appears to only be concerned with determining a maximum fill value so that the bin can be emptied by an operator or the product can be diverted to another bin.

Dependent Claim 19

The rejection of claim 19 under 35 U.S.C. § 102(b) as being anticipated by US Patent No. 6,283,304 issued to Gottlieb is in error, the decision of the Examiner to reject this claim should be reversed, and the application should be remanded to the Examiner.

Claim 19 depends from base claim 14. For the reasons addressed above, Appellants submit that claim 19 is a distinguishable claim and should thus be passed to issuance. Accordingly, Appellants respectfully request that the rejection over claim 19 be withdrawn.

CONCLUSION

In summary, Gottlieb does not show or suggest the features of claims 6, 13 and 19. Therefore, the reference does not provide evidence that would support a conclusion of anticipation under 35 U.S.C. §102(b). Appellants thus respectfully submit that the rejections of claims 6, 13 and 19 are in error and that reversal is warranted in this case.

Respectfully submitted,

Andrew M. Calderon
Reg. No. 38,093

Greenblum & Bernstein, P.L.C.
1950 Roland Clarke Place
Reston, Virginia 20191
Telephone: 703-716-1191
Facsimile: 703-716-1180

CLAIMS APPENDIX

A copy of the claims involved in the appeal is provided below.

1. (withdrawn-previously presented) A method of filling containers with product, comprising:

assigning variables associated with at least one container and a number of drop points;

determining at least one threshold value based on the variables; and

distributing the product to the at least one container for each drop point based on the determined at least one threshold value.

2. (withdrawn) The method of claim 1, wherein the variables include at least one of:

A = Minimum fill value where the at least one container would be considered full;

B = Maximum fill value or maximum capacity of the at least one container;

C = Minimum number of product in the at least one container to be considered full;

D = Maximum number of average product the at least one container can hold; and

W = number of drop points.

3. (withdrawn) The method of claim 1, wherein:

if one of the at least one threshold value is exceeded, the product amount is decremented;

if the one threshold value is not exceeded, then a determination is made as to whether another container is required.

4. (withdrawn) The method of claim 1, wherein if one of the at least one threshold value is not exceeded, substantially uniformly distributing the product throughout all of the containers of the at least one container within a particular drop point by averaging the product over the drop point for each container fill.

5. (withdrawn) The method of claim 4, further comprising:

setting a counter to look at a next possible container associated with the drop point and determining whether the next possible container is required, if the next container is not required, adjusting the variables to determine if any of the product can be forced into a previous container.

6. (original) The method of claim 1, wherein the determining step includes:

determining at least one of:

a = total thickness of all product;

b = total number of all product;

Z = thickness of each product and an order of drop;

determining a best estimate of a number of containers needed if a level of fill varies between a maximum and minimum fill value of the at least one container; and

determining a best estimate of a number of containers needed if the number of product varies for the drop point.

7. (original) The method of claim 6, wherein:

the determining a best estimate of the number of containers needed if the level of fill varies between the maximum and minimum fill value includes:

providing an average between (i) a number of containers if all of the containers of the at least one container are filled to the maximum fill value and (ii) the number of containers if all of the containers are filled to the minimum fill value; and

the determining a best estimate of the number of containers of the at least one container needed if the number of product varies for the drop point includes:

providing an average between (i) a number of containers of the at least one container if all of the containers are filled with the maximum number of product and (ii) the number of containers if all of the containers are filled to the minimum number of product.

8. (original) The method of claim 7, further comprising providing a starting container fill number, the starting container fill number being the number of

product associated with the drop point divided by a number of product for the drop point.

9. (withdrawn) The method of claim 1, further comprising building a fill table defining an amount of product to be placed in the at least one container, the fill table being created by:

calculating a best estimate of containers needed if a level of fill varies between a maximum fill value and a minimum fill value and a number of product varies;

calculating an expected number of the containers needed for a drop point based on the calculated best estimate;

determining a number of product required per container for the drop point based on the number of product and the expected number of the containers for the drop point; and

determining whether a fill depth is less than or equal to the maximum fill value of the at least one container.

10. (withdrawn) The method of claim 1, wherein the determining step further includes determining an expected number of containers of the at least one container required for the drop point.

11. (original) The method of claim 1, wherein the determining step includes:

determining whether a fill depth of the at least one container is less than or equal to a maximum fill value of the container;

if so, determining whether the at least one container count is less than an expected fill count;

if not less, determining whether a total number of product and each thickness thereof for a particular drop point is less than or equal to the number of drop points; and

if so, then distributing the product into the at least one container for the drop point.

12. (original) The method of claim 11, wherein when the at least one container count is less than or equal to an expected fill count, adjusting the variables to determine how many product must be removed from the at least one container.

13. (previously presented) The method of claim 6, wherein the product are mail pieces.

14. (withdrawn) A method for distributing product at a drop point, comprising the steps of:

calculating a best estimate of containers needed if a level of fill varies between a maximum fill value and a minimum fill value and a number of product varies;

calculating an expected number of the containers needed for a drop point based on the calculated best estimate;

determining a number of product required per container for the drop point based on the number of product and the expected number of containers for the drop point;

determining whether a fill depth of the containers is less than or equal to the maximum fill value of the containers; and

if the determining step of fill depth is less than or equal to the maximum fill value, creating a container fill table having a drop point designation, and an associated number of containers and product to fill the containers.

15. (original) The method of claim 14, further comprising providing values to calculate the best estimate and the expected number of containers, the values includes at least one of:

A = Minimum fill value where a container of the containers would be considered full;

B = Maximum fill value or maximum capacity of the container;

C = Minimum number of pieces in a container to be considered full;

D = Maximum number of average pieces the container can hold;

W = Maximum number of drop points;

a = total thickness of all product; and

b = total number of all product.

16. (original) The method of claim 15, wherein:

the calculating a best estimate of containers needed if a level of fill varies between a maximum fill value and a minimum fill value includes:

(i) a/B and using a next higher integer;

(ii) a/A and using next lower integer; and

(iii) ((i) + (ii))/2; and

the calculating a best estimate of containers needed if a number of fill varies between the maximum fill value and a minimum fill value includes:

(a) b/D using a next higher integer;

(b) b/C and using a next lower integer; and

(c) ((a) + (b))/2.

17. (original) The method of claim 15, further comprising determining whether a container count is less than or equal to the expected number of containers for the drop point and if so adjusting piece count of the product for the container.

18. (original) The method of claim 15, further comprising filling the containers based on product and container allocation in the container fill table.

19. (original) The method of claim 14, wherein the product is at least one mail piece.

20. (original) A method comprising :

retrieving thickness data and count data on pieces to be placed in containers; computing a number of containers required for the pieces based on an average of minimum and maximum fill capacities based on fill depth and fill count of the containers;

calculating a final container count by taking an average of the computing step.

21. (original) The method of claim 20, further comprising computing the number of pieces in each container based on final container count and total piece count.

22. (original) The method of claim 21, further comprising:

testing that specific pieces going in each container does not overfill a maximum capacity of the container based on volume; and

if so, adjusting the specific piece count.

23. (withdrawn) A system comprising:

means for assigning variables associated with at least one container and a number of drop points;

means for determining at least one threshold value based on the variables; and

means for distributing the product within the at least one container for each drop point based on the determined at least one threshold value.

24. (withdrawn) A machine readable medium containing code for filling containers with product, comprising:

a module for assigning variables associated with at least one container and a number of drop points;

a module for determining at least one threshold value based on the variables; and

a module for distributing the product within the at least one container for each drop point based on the determined at least one threshold value.

EVIDENCE APPENDIX

This section lists evidence submitted pursuant to 37 C.F.R. §§1.130, 1.131, or 1.132, or any other evidence entered by the Examiner and relied upon by Appellant in this appeal, and provides for each piece of evidence a brief statement setting forth where in the record that evidence was entered by the Examiner. Copies of each piece of evidence are provided as required by 35 U.S.C. §41.37(c)(ix).

NO.	EVIDENCE	BRIEF STATEMENT SETTING FORTH WHERE IN THE RECORD THE EVIDENCE WAS ENTERED BY THE EXAMINER
	N/A	N/A

RELATED PROCEEDINGS APPENDIX

Pursuant to 35 U.S.C. §41.37(c)(x), copies of the following decisions rendered by a court of the Board in any proceeding identified above under 35 U.S.C. §41.37(c)(1)(ii) are enclosed herewith.

NO.	TYPE OF PROCEEDING	REFERENCE NO.	DATE
1	N/A	N/A	N/A